REMARKS

Amendments

Claim 1 has been amended to incorporate the limitations of claim 5, which depended on claim 1. Claim 9 has been amended to incorporate the limitations of claim 11, which depended on claim 9. Claims 5 and 11 have been cancelled. It is submitted that no new matter is introduced by these amendments.

These amendments do not introduce any new issues of patentability. No new limitations have been introduced. Entry of this amendment is respectfully requested.

Pending Claims

The pending claims are 1, 3, 4, 7-10, and 14-16.

First Rejection under 35 U.S.C. § 103(a)

Claims 1, 3, 7, 9, and 14-16 were rejected under 35 U.S.C. § 103(a) as unpatentable over EP 535 711 in view of the computer generated translation of JP 6-125171 ("JP 6-125171") and Dudding, U.S. Patent 4,517,774 ("Dudding").

The limitations of claims 5 and 11, which were not rejected as unpatentable over EP 535 711 in view of JP 6-125171 and Dudding, have been incorporated into independent claims 1 and 9, respectively. Claims 3, 7, and 14-16 are dependent, directly or indirectly, on amended claim 1 or amended claim 9. It is submitted that the rejection of claims 1, 3, 7, 9, and 14-16 as unpatentable over EP 535 711 in view of JP 6-125171and Dudding, should be withdrawn.

Second Rejection under 35 U.S.C. § 103(a)

Claims 4, 5, 10, and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over EP 535 711 in view of JP 6-125171 and Dudding, and further in view of Kim, U.S. Patent.4,896,464 ("Kim").

Independent claims 1 and 9, the only independent claims in the application, have each been amended to recite that the mean particle size of the particles of ceramic powder is not greater than 10 μm. Thus, all the claims in the application recite this limitation.

The use of ceramic particles of not greater than 10 μm can be particularly advantageous when the substrate contains a cavity. *See*, page 3, lines 6-9, of the substitute specification. Ceramic particles not greater than 10 μm can penetrate the cavity and evenly remove the shrinkage suppression sheet.

The Office asserts that this limitation is obvious in view of the teaching of Kim that finer grit of the order of 12 to 20 microns can be used in a dry process for grit blasting. Official Action of 2/4/03, page 4, lines 14-16. The passage relied on by the Office reads as follows:

> Also if desired two or more sizes of abrasive particles may be employed. A coarser grit, for example 60 to 70 microns in diameter, may be first used to abrade the surface to approximately a desired height of the terminals. A finer grit, for example 12 to 20 microns in diameter, may then be used to finish the surface. This second, finer grit abrasion may improve the microshear characteristics of the surface with a subsequent improvement in adhesion of subsequently applied material.

Kim, column 6, lines 5-13 (emphasis added).

Kim teaches that:

1) Two or more sizes of abrasive particles may be used in a dry process, a coarser grit followed by finer grit.

2) The finer grit is, for example, 12 to 20 microns in diameter.

These teachings do not discloses or suggest a mean particle size of the particles of ceramic powder not greater than 10 μm.

Kim teaches that the "finer grit" should be used after treatment with a "coarser grit." Further, the "finer grit" is "12 to 20 microns," not "not greater than 10 μm," as recited by applicants' claims. Further, as the Office admits, the process disclosed by Kim is a dry process, not a wet process as recited by applicants' claims. Thus, the person of ordinary skill in the art, having the advantages of the teachings of Kim, would not be motivated to use ceramic particles of not greater than 10 μm in the claimed method.

The Office has not made the *prima facie* case. The combination of references does not disclose or suggest applicants' invention. It is submitted that the rejection of claims as unpatentable over EP 535 711 in view of JP 6-125171, Dudding, and Kim should be withdrawn.

Response to Office Argument

The Office argues that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 981); *In re Merck & Co*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Office Action mailed 2/4/03, page 6, lines 1-4.

Applicants have not, as the Office suggests, attacked references individually.

Applicants have attacked the combination of references, either because the references cannot be combined or because the combination does not produce the *prima facie* case. This will, of necessity, require discussion of the disclosures of the various references to point out why the references cannot be combined and/or to point out the missing features.

To make the *prima facie* case the references must be combinable. In addition, the "reference (or references when combined) must teach or suggest all of the claim limitations." *See*, MPEP 2142 (case citations omitted) (emphasis added). When, as in this case, the combination does not teach or suggest all of the claim limitations, the Office has not made the *prima facie* case and the rejection must be withdrawn.

Applicants are entirely within their rights in pointing out that one reference in a combination does not disclose or suggest what an Office alleges that it does. To hold otherwise would effectively prevent an applicant from challenging the Office's reading of any reference cited as part of a combination of references, no matter what the Office alleged the reference disclosed or suggested.

Third Rejection under 35 U.S.C. § 103(a)

Claim 8 was rejected under 35 U.S.C. § 103(a) as unpatentable over EP 535 711 in view of JP 6-125171, Dudding, and Kim, and further in view of Yam, U.S. Patent 5,827,114 ("Yam").

Claim 8 is dependent on claim 1. As discussed above, claim 1 has been amended to recite that the mean particle size of the particles of the ceramic powder is not greater than 10 μm. This limitation is not disclosed or suggested by Yam. *See*, Yam, column 5, lines 33-41.

The Office has not made the *prima facie* case. The rejection of claim 8 as unpatentable over EP 535 711 in view of JP 6-125171, Dudding, Kim, and Yam

should be withdrawn.

Conclusion

It is respectfully submitted that the claims are in condition for immediate allowance and a notice to this effect is earnestly solicited. The Examiner is invited to phone applicants' attorney if it is believed that a telephonic or personal interview would expedite prosecution of this application.

Respectfully submitted,

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The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. 18-0350 of any fees associated with this communication.	I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on: **April 29, 2003**

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 5 and 11 have been cancelled.

The claims have been amended as shown.

1. (Four Times Amended) A method for manufacturing a multi-layered ceramic substrate, said method comprising the steps of:

forming a shrinkage suppression sheet comprising a ceramic material on at least one face of an unfired green sheet laminated body;

firing said green sheet laminated body on which said shrinkage suppression sheet is formed on the at least one face; and

removing said shrinkage suppression sheet by spraying ceramic powder and water together with compressed air onto said shrinkage suppression sheet on the at least one face of said green sheet laminated body after firing;

wherein said ceramic powder comprises the same ceramic material as said shrinkage suppression sheet; and the mean particle size of the particles of said ceramic powder is not greater than 10 μm.

9. (Four Times Amended) A method for manufacturing a multi-layered ceramic substrate, said method comprising the steps of:

forming a shrinkage suppression sheet comprising a ceramic material on two faces of an unfired green sheet laminated body;

firing said green sheet laminated body; and

removing said shrinkage suppression sheet by spraying a mixture of ceramic powder and water together with compressed air onto at least one of the two faces of said green sheet laminated body, after firing;

wherein said ceramic powder comprises the same ceramic material as said shrinkage suppression sheet; and the mean particle size of the particles of said ceramic powder is not greater than 10 μm.